R E M A R K S

Claims 1-18 were presented for examination and were rejected. The applicants respectfully request reconsideration in light of the amendments and the following comments.

35 U.S.C. 102 Rejection of Claims 1-18

Claims 1-18 were rejected under 35 U.S.C. 102(b) as being anticipated by F. Segond, et al., US Patent 6,405,162 B1 (hereinafter "Segond"). The applicants respectfully overcome the rejection.

Claim 1 recites:

> **1.** A method comprising:
>
> receiving a communication that comprises at least one word; and
>
> classifying the communication by utilizing a joint classifier based on **application of word information _and_ word class information**.
>
> (*emphasis supplied*)

Nowhere does Segond teach or suggest, alone or in combination with the other references, what claim 1 recites — namely the application of word information **and** word class information.

The importance of this distinction is noted in the specification.

> [Word classes] are typically regarded as more robust than word terms, because the word class generation process can be viewed as providing a mapping from a surface form representation in word terms to broader generic concepts that should be more stable. *One problem associated with the use of word classes is that they may not be detailed enough to differentiate confusion cases in various NLP [natural language processing] tasks. Also, it may be difficult to apply word classes in certain situations, since not all word classes are robust, especially when speech recognition is involved. In addition, most word class generation is based on linguistic information or task dependent semantic analysis, both of which may involve manual intervention, a costly, error prone and labor-intensive process.* (page 2; lines 5-13 of the specification)
>
>   . . . .

> The joint classifier determines at least one category for the plurality of words **based on application of a combination of word information and word class information to the plurality of words.** Words and word classes utilized to provide the respective word information and word class information for use in the joint classifier may be selected using information gain [IG] based term selection. (page 2, lines 23-27)
>
> . . . .
>
> A significant drawback of an automatic clustering algorithm such as that described above is that it can generate word classes that are not sufficiently useful or robust for NLCR [natural language call routing], NLU [natural language understanding] or other NLP applications. This problem is overcome in the illustrative embodiment through the use of the above-noted IG-based selection process, which selects words and word classes that are particularly well suited for NLCR, NLU or other NLP applications. ***By combining the resulting selected word information and word class information, the robustness and performance of the corresponding classifier is considerably improved***. (page 9, lines 13-19)
>
> (*emphasis supplied*)

This robustness and improved performance, is a new and useful advantage over the prior art.

For this reason, the applicants respectfully submit that the rejection of claim 1 is overcome.

Because claims 2-9 depend on claim 1, the applicants respectfully submit that the rejection of them is also overcome.

Claim 10, as amended, recites:

> **10.** A method comprising:
>
> receiving a communication that comprises at least one word; and
>
> classifying the communication by utilizing a joint classifier based on **word information _and_ word class information**,
>
> wherein the combination of word information and word class information comprises at least one term-category matrix characterizing words and word classes selected using information gain based term selection.
>
> (*emphasis supplied*)

Nowhere does Segond teach or suggest, alone or in combination with the other references, what claim 10 recites — namely the classification based on word information **and** word class information.

For this reason, the applicants respectfully submit that the rejection of claim 10 is overcome.

Because claim 11 depends on claim 10, the applicants respectfully submit that the rejection of them is also overcome.

Claim 12, as amended, recites:

> **12.** A method comprising:
>
> receiving a communication that comprises at least one word;
>
> classifying the communication by utilizing a joint classifier to determine a category for the communication ***based on word information and word class information***; and
>
> wherein the information gain based term selection:
>
> i) calculates information gain values for each word in the first communication, a given one of the terms comprising a word or a word class,
>
> ii) sorts the terms by their information gain values in a descending order,
>
> iii) sets a threshold as the information gain value corresponding to a specified percentile, and
>
> iv) selects the terms having an information gain value greater than or equal to the threshold.
>
> (*emphasis supplied*)

Nowhere does Segond teach or suggest, alone or in combination with the other references, what claim 12 recites — namely the classification based on word information **and** word class information.

For this reason, the applicants respectfully submit that the rejection of claim 12 is overcome.

Because claims 13 and 14 depend on claim 12, the applicants respectfully submit that the rejection of them is also overcome.

Claim 15, as amended, recites:

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15. An apparatus comprising:

a processor-based device operative to**:**

receive a communication that comprises at least one word;

to classify the communication **by** utilizing a joint classifier based on application word **information and** word class **information** .

(*emphasis supplied*)

Nowhere does Segond teach or suggest, alone or in combination with the other references, what claim 15 recites — namely the classification based on word information **and** word class information.

For this reason, the applicants respectfully submit that the rejection of claim 15 is overcome.

Because claims 16 and 17 depend on claim 15, the applicants respectfully submit that the rejection of them is also overcome.

Claim 18, as amended, recites:

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18. An article of manufacture comprising a machine-readable storage medium containing software code that when executed implements the steps of:

receiving a communication that comprises at least one word;

classifying the communication by utilizing a joint classifier based on application of word information and word class information .

Nowhere does Segond teach or suggest, alone or in combination with the other references, what claim 18 recites — namely the classification based on word information **and** word class information.

For this reason, the applicants respectfully submit that the rejection of claim 18 is overcome.

Request for Reconsideration Pursuant to 37 C.F.R. 1.111

Having responded to each and every ground for objection and rejection in the last Office action, applicants respectfully request reconsideration of the instant application pursuant to 37 CFR 1.111 and request that the Examiner allow all of the pending claims and pass the application to issue.

If there are remaining issues, the applicants respectfully request that Examiner telephone the applicants' attorney so that those issues can be resolved as quickly as possible.

Respectfully,
Wu Chou et al.

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